

**REMARKS UNDER 37 CFR § 1.116**

**Formal Matters**

Claims 12, 14, 24, 32-34, 37-40 and 45 are pending.

Claims 12, 14, 24, 37-40 and 45 have been rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,139,492 (“Vierra et al.”) in view of U.S. Patent No. 5,927,284 (“Borst et al.”). Claims 32-34 have been rejected under 35 U.S.C. 103(a) as being obvious over Vierra et al. in view of U.S. Patent No. 5,417,709 (“Slater”) and Borst et al.

Applicant respectfully requests reconsideration of the application in view of the remarks made herein. No new matter has been added.

**The Office Action**

Claims 12, 14, 24, 37-40 and 45 have been rejected under 35 U.S.C. 103(a) as being obvious over Vierra et al (U.S. Patent No. 6,139,492) in view of Borst et al. (U.S. Patent No. 5,927,284). Claims 32-34 have been rejected under 35 U.S.C. 103(a) as being obvious over Vierra et al. in view of Slater (U.S. Patent No. 5,417,709) and Borst et al. In rejecting claims 12, 14, 24, 32-34, 37-40 and 45, the Examiner asserts “Vierra et al. show a device having first and second shafts... the shafts terminated in blocks 15 and 17, which are adapted to contact the surface of the **beating heart** in an anastomosis procedure... Borst et al. teach the use of suction for two reasons: firstly, for immobilizing the portion of the heart during an anastomosis procedure to improve surgical outcomes, and secondly, for improving the grip on the heart, enabling easier repositioning.

Applicant has found no specific reference by Borst et al. regarding the Examiner’s assertions, and particularly regarding the second assertion. The Examiner is respectfully requested to indicate the column and line numbers that support his assertions.

With regard to the first assertion, Applicant respectfully submits that the device of Borst et al. is disclosed for immobilizing a portion of the beating heart. Borst et al. achieves such immobilization by applying suction to the surface of the heart via suction ports through a paddle. Borst applies two such paddles to the surface of the heart on opposite sides of a coronary vessel and then moves the paddles apart as shown in Fig. 10, to reduce the amplitude of the amount of movement between the paddles.

Vierra et al. is for use in procedures where the heart has been stopped and the patient has been placed on a bypass machine (column 11, lines 60-62). Accordingly, there would be no need by Vierra et al. to immobilize the heart, since it has already been stopped prior to performance of the anastomosis. Also, the blocks 15 and 17 of the device of Vierra et al. are adapted to contact the surface of the arrested heart, not **the beating heart, and apply pressure thereto.**

As to the Examiner's second assertion, Applicant notes that Vierra et al. compresses the coronary artery on both sides of the anastomosis target, to stop the flow of cardioplegic fluid and/or blood from coming out of the anastomosis site (column 12, lines 47-52) by **applying pressure to foot 11**. Thus, modifying Vierra et al. as suggested by the Examiner to use suction in place of the friction fit would not provide any improvement, as application of suction would not be effective to compress the coronary artery and pressure would still have to be applied. Thus, there is no suggestion to combine the references in the manner provided by the Examiner, other than the suggestion obtained through improper hindsight after a reading of the present disclosure and claims. The Examiner's suggestion that such a modification would improve surgical outcomes is purely speculative since the surgical procedures described by Borst et al. and Vierra et al. are quite different from one another. Nor is it even clear that such a modification would work with Vierra's procedure, since the paddles would be extending across a discontinuous surface formed by the coronary artery, which could potentially prevent the paddles from sealing. Further, application of suction over the coronary artery (as necessitated by the V-shaped configuration of Vierra et al.) during beating heart surgery (a procedure not contemplated by Vierra et al.) is generally considered to be clinically undesirable. In any case, the application of physical pressure could not be done away with and therefore there is no suggested advantage in replacing the frictional surfaces with suction ports. It is very likely that such a modification would result in a less effective device for the purposes of Vierra et al., for the reasons stated.

In rejecting claims 38-40, the Examiner asserts "Borst et al. teach attaching the contact members and then manipulating the members to spread them apart while they are in contact with the heart, to immobilize the region of interest." As to this assertion, Borst et al. teach immobilizing and repositioning the region of interest by spreading a pair of suction devices while Vierra et al. compress the artery by friction fit of a pair of members to stop the flow and fail to teach immobilizing the region of interest by spreading the pair of members apart. The feet of Vierra et al. are moved only to allow the device to be collapsed to allow it to fit through a small access incision and then reopened once inside the chest cavity. There is no indication by Vierra et al. that it would be advantageous or even even considered to spread the feet of Vierra et al. apart once the cross clamping/compression position has

been established. Certainly such an activity would not reduce fluctuations in the beating of the portion of the heart between the feet, since the heart is not beating during the Vierra et al. procedure. Again, the Examiner has relied upon improper hindsight to force the combination of references in an attempt to meet all of the recitations of Applicant's claims.

Based on the reasons set forth above, it is respectfully submitted that the Examiner has engaged in improper hindsight, in an effort to meet all of the present recitations of Applicant's claims, by relying upon Applicant's disclosure to reconstruct the invention with no motivation to do so, absent that provided by Applicant's disclosure.

The Examiner rejected claims 32-34 under 35 U.S.C. Section 103(a) as being obvious over Vierra et al. in view of Slater and Borst et al. For the same reasons provided above, it is respectfully submitted that it would not be obvious to combine the features of Borst et al. with Vierra et al. as suggested by the Examiner. Slater does nothing to change this.

Accordingly, it is respectfully submitted that the Examiner has failed to set forth a *prima facie* case of obviousness with respect to claims 32-34 and it is respectfully requested that this ground of rejection be reconsidered and withdrawn as being clearly improper.

### **Conclusion**

Applicant submits that claims 12, 14, 24, 32-34, 37-40 and 45 are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-2653, order number GUID-003DIV2.

Respectfully submitted,  
LAW OFFICE OF ALAN W. CANNON

Date: \_\_\_\_\_

*May 21, 2004*

By: \_\_\_\_\_



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